

raptors present are the golden eagles, prairie falcons, and red-tailed hawks. Development activities in close proximity to a nest site during the critical reproductive period may cause nest desertion or abandonment.

Portions of this application area are considered to be mule deer winter habitat. Construction of mining sites and the associated haul roads will eliminate mule deer habitat as well as cause additional human harassment of the animals through improved access.

No wild horses are present in this area.

C. COTTONWOOD GROUP

1. Cultural Resources

This group of leases is adjacent to the southern boundaries of the Natural Buttes and Seep Ridge statistical study areas. The results of these studies are applicable to these leases because of topographic and environmental characteristics. Cultural resource inventory recommendations are made using these studies as guidelines. Application of sets of environmental variables that are important for locating cultural resources are the primary basis for archaeological inventory recommendations. To date, no archaeological sites are known on these leases. Areas previously inventoried or that have been disturbed will not be inventoried, all other areas will be inventoried.

2. Geology and Minerals

a. Geology

The Cottonwood group of applications is located in the west-central part of the Uintah Basin (Cashion 1967). The basin lies within the Colorado Plateau Physiographic Province. The area is overlain by the Tertiary age Uinta formation. The structure of this formation is homoclinal with a gentle north-northwest dip of 2 to 5 degrees. It exhibits gentle folding along a northwest axis. A notable structural feature is a system of parallel, northwest trending, vertical to near vertical fractures filled with gilsonite (also called gilsonite veins or vein systems). This solid hydrocarbon (also called asphaltite) is a residue of natural petroleum. It has been identified as occurring in fractures within the Uinta formation and the underlying Tertiary age Green River and Wasatch formations (Cashion 1967).

The topography consists of a generally northwest trending, flat to hilly bench which is dissected by washes and

intermittent streams. Elevations range from 5300 feet at the middle and northwest end of the area to 5720 feet in the very southeastern application area. The dominant feature is Sand wash which trends north-south and splits the application areas in two.

b. Minerals

(1) Leasables

(a) Oil and Gas

All the Cottonwood group is within the Greater Uinta Basin KGS. The Love (gas) Unit encompasses 40 acres of the application areas. The area is identified in the Book Cliffs RMP (BLM 1984) as being in an area with a favorable environment for oil and gas.

(b) Oil Shale

The northwestern portion of the application areas lie within a Known Oil Shale Leasing Area (KOSLA). The entire area was placed under protective withdrawal subject to valid existing rights by Executive Order, modified by a public land order, for the investigation, examination, and classification of oil shale.

(c) Gilsonite

Two gilsonite veins (unnamed but referred to by some companies as the Cottonwood and Cottonwood West) are known to outcrop or project through the application areas. Hydrocarbon Resources Co. has a mine just to the northwest of the application areas on one of the gilsonite veins. Several shafts are mapped on the same vein about one mile farther northwest. Ziegler Chemical and Mining Corp. operates a non-Federal gilsonite mine in this area at the present time.

(d) Sodium

The oil shale withdrawal in (b) above excludes this area from sodium leasing, subject to valid existing rights.

(2) Saleables

The Book Cliffs RMP does not designate any potential sand and gravel or building stone sites in the

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Cottonwood area. The few washes in the area may contain alluvium, but are likely to be of inferior quality and quantity and too distant from markets to be commercial.

(3) Locatables

According to BLM records, there are uranium lode claims locations which overlap application areas in Sections 4, 5, and 9, T. 11 S., R. 22 E. (BLM records, as of February 26, 1986). These mining claims were staked in 1955. This was before a 1968 Public Land Order closed the oil shale withdrawal area to metal-liferous entry. Uranium has been designated as a metal in a 1954 solicitor's opinion. Therefore, these claims are properly located, but have not been examined to prove a discovery or lack of discovery of a valuable mineral. Leasable and locatable minerals may be developed in the same area in accordance with the Multiple Mineral Development Act. (P.L. 585). An Executive Order, as modified by a public land order, withdrew the oil shale area in (b) above from mineral entry under the mining law, subject to valid existing rights.

There are uranium lode mining claims in Sections 4, 5, and 9, T. 11 S., R. 22 E. of U-54608 which can still be explored (under 43 CFR Group 3800) and the leasable mineral gilsonite developed (under 43 CFR Part 3550) in the same area in accordance with the Multiple Mineral Development Act (P.L. 585).

3. Range

The proposed leases in this area are found in various desert, semi-desert, run-in, and badland ecological sites, with the latter of the sites supporting the least of the vegetation. The majority of the area consists of the mixed-desert shrub type vegetation. Major shrub species found are: shadscale, budsage, big sagebrush, rabbitbrush, and black sagebrush. The most common grasses are galleta grass, western wheatgrass, Indian ricegrass, squirreltail, and sand dropseed. Forb species will include scarlet globemallow, longleaf phlox, and numerous annuals.

4. Recreation

There are no wilderness study areas, areas of critical environmental concern, natural areas or developed recreation facilities located on the proposed lease tracts. Recreation constitutes only a secondary land use in this area. The only significant activity is some hunting for rabbits during the

winter months and antelope in the fall. ORV use in the area is very minor and usually associated with hunting and oil/gas production.

Visual Resources:

The VRM class is IV (least restrictive and where changes may attract attention) and comprised of class C (low quality) scenery, low sensitivity (degree of concern for scenery or scenery modification) and middleground/seldom seen visual zones.

The landscape character consists of terrain with low undulating hills with a few rock outcrops and shallow drainage basins covered by low shrub vegetation. Rock and soil colors range from muted buff to gray tones. Visible man-made structures consist of access roads to producing oil/gas wells and production gas pipelines laid on the surface.

The proposed gilsonite lease areas would generally not be visible from any major travel route.

5. Soils

Soils in the Cottonwood Group applications range from shallow to very deep with surface soils from extremely stony loam to loam. Slopes are from 2 to 50 percent. Subsoils have moderate to strong alkalinity. About six percent (90 acres) of the lease area has high water erosion hazard.

About 35 percent of the soils are shallow, about 50 percent are deep or moderately deep and about 15 percent is Badland or Rock Outcrop. Badland consists of steep, eroding, barren non-producing land.

Sediment yield from the application area is moderate producing 0.5 to 1.0 acre foot per square mile per year. Total sediment production from the unit is about 1.1 to 2.25 acre feet or 2,080 to 4,160 tons of sediment annually (soil weight 85 lbs. per cubic foot = 1,851 tons per acre foot). Revegetation of disturbed shallow soils may be very difficult due to low water supplying capacity and alkalinity.

6. Threatened and Endangered Species

(Wildlife)

No threatened or endangered wildlife species are known to exist in the Cottonwood Group application area.

(Plants)

There are no presently known threatened, endangered, or sensitive plant species occurring on any of the lease application areas in the Cottonwood Group Area.

7. Water

The Cottonwood Group is characterized by steep, narrow canyons which feed into the intermittent streams of Sand and Cottonwood Washes. Sand Wash intersects the application area. Both washes drain north into the White River.

Most runoff occurs during the spring and early summer and is produced by melting of the winter snowpack. Average annual precipitation for the area is 8 to 12 inches. During the late summer months, high intensity, short duration thunderstorms may cause high runoff events and local flooding.

Ground Water

Minor drainages such as Sand Wash may contain an alluvial aquifer but their areal extent is small. Thickness of alluvial valley fill probably is less than 30 feet thick. Due to the low amount of precipitation falling on the area, probably most recharge occurs from stream infiltration and is consumed by phreatophyte vegetation and through evapotranspiration.

Unconsolidated ground water information is limited in this area. However, discussion of potential aquifers that should be present in this group can be found in the Canyon Country Group IV. B. 7. Ground Water.

8. Wildlife and Wild Horses

The Cottonwood Group application area contains essential habitat for the East Bench antelope herd unit, established in 1983. The area is used as year-round habitat, primarily for foraging and cover, but may also serve as fawning habitat.

This area is also habitat for an unknown number of sage grouse. Grouse occur on the area year-round, but are probably most common during winter months.

Raptors are common in this area. Most prevalent are golden eagles, red-tailed hawks, and prairie falcons. One known aerie is located adjacent to the application boundary. It is not currently active but has been active in recent years.

One small band of wild horses (approximately seven animals) is occasionally observed on this area. These animals are also scheduled for removal during the 1986 round-up.

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